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| **Explanation of Math Instructional Sequence**  *The following two pages will explain the set up of the Instructional Sequence.* | | |
| Unit #: **Title of Unit** Time Frame: Dates for instructing (days allotted) | | |
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| **Essential Understandings: C:\Users\lsharlow\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\N41QMS9C\MC900233518[1].wmf**   * This section notes the “big math ideas” this unit focuses on. | | |
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| **CCSS focus this unit:**   * The coding and wording for the specific standards directly linked to the Essential Understandings of this unit will be listed here.   Also addressed:   * The coding and wording for other standards connected to the content of this unit, though not a direct connection to the Essential Understanding will be listed here. |  | **Math Practices**  This section reminds us of the instructional expectations of our lessons by listing the 8 Standards for Mathematical Practice noted in our Common Core State Standards. |
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|  | Planning/Reflective Questions for Teachers   * The CCSS expects our instruction to change. * The questions listed here are to assist our thinking in regards to planning and instructional practice. |
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| **Key:**  **EM –** Everyday Mathematics Teacher’s Lesson Guide  **TRM—**Teacher’s Reference Manual  **AH—**Assessment Handbook (Everyday Mathematics)  **EM — DO** Everyday Math Part 3: Differentiation Options  **GK**—Everyday Math Games Kit (see “Teacher’s Guide to Games” book)  **VDW** – Teaching Student-Centered Mathematics by Dr. Van de Walle  **AIMS**-(name of book)—specific book will be identified with lesson name and page number(s)  **\*AFS –** Addition/Subtraction Fact Strategies  **\*MFS** – Multiplication Fact Strategies  \*(referenced in Support Resources & offered at the print shop) |  | **Critical Vocabulary:**  Specific terms that should be used with precision while communicating about the topic of this unit will be listed here.  REMEMBER: WPS portal houses the concept cards for student interaction and display, strategies and definitions packet, and interactive SMART Board activities designed to support vocabulary understanding. |
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| Lessons not aligned to CCSS: lessons that are not included or listed as “optional” will be listed here. Optional lessons are included in the list of lessons and are considered lessons that enhance students’ learning, though not directly addressing grade level standards. | | |

This transitional document is a work in progress. Constructive feedback is appreciated. ([lsharlow@usd259.net](mailto:lsharlow@usd259.net)) ☺

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| **page 2** | | |
| **CCSS** | **Lesson** | **Questions to encourage MP** |
| For the objective of each lesson, the following will be noted:  Content Standard(s)  Standards for Mathematical Practice  ▲Assessed indicators (3rd-5th) | * **Unit Lesson #– Lesson Title** p. pages in Teacher’s Guide   A star (★) will be in front of lessons that have changes that support the new CCSS. Teachers will need to access the new resources from either the WPS portal, or everydaymathonline.com.  All other lessons will have a circled bullet (⬝)  *Teacher Note: instructional adjustments that are necessary to target skills and concepts.* | * Questions listed for each lesson that focus on one or more Mathematical Practice Standards * These questions could be beneficial for formative assessment or reflective closing opportunities. |
|  | * Additional Lessons/Half-Lessons will be inserted within units to address content that requires instructional support. |  |
|  | * **Progress Check - Unit lesson #**   p. in Teacher’s Lesson Guide  *(When lessons have been deleted from a unit, items from the Written Assessment Part A that should be skipped will be noted here )* |  |

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| Support Resources **page 2 or 3** |
| Coded standard (i.e. 5.OA.2)  Resources that support the focus standards of this unit will be listed here. Each standard will have its own list of support activities. These can be used to enhance core instruction or intervention needs.  Resources could include: Everyday Math Games (GK), “Teaching Student Centered Mathematics” (VDW); or the AIMS-Solve it book (AIMS PS)  *Remember, Everyday Mathematics part 3: Differentiation Options offer instructional support for intervention. These are not listed within these boxes, but are valuable activities to consider.* |

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| Unit 1: **Number Theory** Time Frame: Aug 15-Sept 10 (18 days) | | |
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| **Essential Understanding: C:\Users\lsharlow\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\N41QMS9C\MC900233518[1].wmf**   * Write and interpret numerical expressions | | |
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| **CCSS focus this unit:**   * 5.OA.2-- Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.   Also addressed:   * 4.NBT.5, -- Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. * 4.NBT.6 – Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. * 4.OA.4 – Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite. |  | **Math Practices**   1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. |
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|  | Planning/Reflective Questions for Teachers   * How can I make sure students understand that efficiency and accuracy can be enhance by using place value reasoning and properties of operations? * When planning my lessons what partnering or grouping strategies can I use to encourage mathematical collaboration? |
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Lessons not aligned to CCSS: 1-8

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| **CCSS** | **Lesson** | **Questions to encourage MP** |
| MP3, 5  ▲N5.1.1.K1 | * **Lesson 1-1 – Introduction to the *Student Reference Book*** p. 16-20 | * How will this tool help you work more efficiently? * How will this book help you with your homework? |
| MP2,3,4,6,7,8  4.NBT.5  4.OA.4 | * **Lesson 1-2—Rectangular Arrays p**. 21-26 | * How can patterns help you solve problems and explain rules? * How does knowing basic fact make solving extended facts easier? |
| 5.OA.2  MP1,2,4,5,6  4.NBT.5  4.NBT.6  4.OA.4 | * **Lesson 1-3 – Factors**  p. 27-31 | * How do mathematical symbols such as +, \*, and = help you represent your problem? * How does representing a mathematical situation with words or visuals increase your understanding of a problem? |
| 5.OA.2  MP1,3,6  4.NBT.5  4.NBT.6  4.OA.4 | * **Lesson 1-4—The *Factor Captor* Game**   p. 32-36 | * Why is it important to explain what you are doing and why it works? * Explain the reasoning for your lead number and why you think it is the next best move. |
| MP1,3,5,6,8  4.NBT.6 | * **Lesson 1-5—Divisibility** p. 37-41 | * How can mathematical rules and shortcuts help you become a stronger math thinker? * How can we check to see if the rules work? * How can divisibility rules be useful in real life? |
| MP1,2,3,6,8  4.OA.4 | * **Lesson 1-6 – Prime and Composite Numbers**  p. 42-46 | * What is an example of a strategy you could use every time you play the game? Explain it. * How does understanding prime and composite numbers help you make the best selection for you numbers? |
| 5.OA.2  MP2,3,5,6,7,8  4.NBT.5  4.OA.4 | * **Lesson 1-7—Square Numbers** p. 47-51 | * What are some benefits of using precise and accurate language to communicate your thinking? * How is squaring a number different from doubling a number? |
| MP1,2,3,4  4.OA.4  ▲N5.1.1.K1a | * **Lesson 1-9 – Factor Strings and Prime Factorizations (2 days)**  p. 57-61 | * Why is it important to be flexible in the way you solve a problem? * Why might your solution look different from others? |
|  | * **Progress Check 1 - Lesson 1-10** p. 62-65   *(skip #8, 9, 10)* |  |
|  | | |
| MP 1-8 | * **Additional Lesson – Part-Part-Whole Addition/Subtraction Thinking Tool (PPW & SCR)** | * How will these tools help your thinking as you solve word problems in addition and subtraction? |
| MP 1-8 | * **Additional Lesson - Subtraction Thinking Tool (comparison)** | * How is this tool similar to the tools from yesterday? * How is this tool different? |
| MP 1-8 | * **Additional Lesson – Start-Change-Result Addition/Subtraction Thinking Tool** | * How is this tool similar to the tools from yesterday? * How does the sequence of information in the word story assist with comprehending the structure of the word problem? |

Support Resources

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| 5.OA.2:  **Games:** “Name that Number” | Fact Fluency:  **Games:** “Factor Captor”, “Beat the Calculator”, “Multiplication Top-it”, “Factor Bingo”  “Fact Triangle Flip”; “Multiplication Bingo”; “Array Bingo”; Factor Top-it”;  **VDW**: 88-93 “Strategies for Multiplication Facts”;  **EM** – Project 1 “The Sieve of Eratosthenes” p. 440-442; Museum-“Array Museum” p. 26; Project 2  “Deficient, Abundant, and Perfect Numbers” p. 443-445; |
| **Tier 2:** Besides setting procedures and expectations, we suggest that you give the Fact Strategies tests to determine the needs of your students. If you have students that struggle with knowing these facts, it would be wise to address them in your intervention time. Activities from your “Addition and Subtraction Fact Strategies” and “Multiplication Fact Strategies” booklets will offer several activities for teaching and practicing each specific strategy. | |

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| Unit 2: **Estimation and Computation** Time Frame: Sept 11-Oct 10 (22 days) | | |
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| **Essential Understanding: C:\Users\lsharlow\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\N41QMS9C\MC900233518[1].wmf**   * Understand the place value system * Perform operations with multi-digit whole numbers and with decimals to hundredths | | |
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| **CCSS focus this unit:**   * 5.NBT.3a-- Read, write, and compare decimals to thousandths. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form * 5.NBT.4-- Use place value understanding to round decimals to any place. * 5.NBT.7-- Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.   Also addressed:   * 5.NBT.1-- Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left. * 5.NBT.2-- Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10. * 5.OA.2-- Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. * 5.MD.1-- Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems. * 5.MD.2-- Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. |  | **Math Practices**   1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. |
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|  | Planning/Reflective Questions for Teachers   * How can construct my lessons’ focus so students understand place value when computing? * How can I emphasize the difference between estimation and exact answers? * What instructional strategies can I use to promote problem solving and reasoning when working with word problems? |
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Lessons not aligned to CCSS: 2.6, 2.9

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| **CCSS** | **Lesson** | **Questions to encourage MP** |
|  | Additional lesson: Decimal number sense (2 days) |  |
| OPTIONAL  MP1,2,3,4,5,6,8 | * **Lesson 2-1 – Estimation Challenge** p. 80-84 | * What questions need to be answered before the solution can be found? * Will each group have the same estimate? * What are you being asked to solve? |
| 5.NBT.1, 5.NBT.3a  5.NBT.7, MP1,2,3,6,7  ▲N5.1.1.K1a  ▲N5.1.3.K2 | * **Lesson 2-2—Addition of Whole Numbers and Decimals** p. 85-90 | * Why can’t you add clock time numbers the same way you add whole numbers and decimals in our base-10 system? How are the patterns in the two systems different? |
| 5.NBT.7  MP1-8 | * **Project Standard Algorithm 1 (addition)** p. **A1-A5** | * How does understanding place value help when using the traditional algorithm? |
| 5.NBT.1 5.NBT.3a  5.NBT.7  MP1,3,5,6,8  ▲N5.1.3.K2 | * **Lesson 2-3—Subtraction of Whole Numbers and Decimals** p. 91-96 | * Why is it important to be able to understand and explain how an algorithm works? * Explain the algorithm you used for one of your problems and why it works. |
| 5.NBT.7  MP1-8 | * **Additional lesson – Project Standard Algorithm 3 (subtraction)** p. A11-A15 | * How does understanding place value help when using the traditional algorithm? |
| 5.OA.2, 5.NBT.3a  5.NBT.7  MP1,2,3,4,6,8  ▲N5.1.1.K1a  ▲5.2.2.K1  ▲N5.2.2.K2 | * **Lesson 2-4 – Addition and Subtraction Number Stories**  p. 97-102   *Teacher Note: recommend use of Thinking Tools in place of situation diagram* | * Why is it important to think about several combinations of the cards in order to generate the target number? * What are some strategies you could consider when you are arranging your cards to name the target number? |
| 5.NBT.3a, 5.NBT.4  5.NBT.7, 5.MD.2  MP1,2,5,6,8  ▲5.4.2.K3  ▲5.4.2.A1f | * **Lesson 2-5—Estimate Your Reaction Time** p. 103-108   *Teacher Note: Students may struggle with decimal place value as they solve for measures of central tendency* | * Why is it important to analyze and understand your data before you reach a conclusion? * What words, objects, or displays can you use to make your explanation clearer? |
| Optional  (Probability meter for decimal/fraction) | * **Lesson 2-6 Chance Events**   *Teacher Note: Do Readiness activity and introduce the Probability meter for future* |  |
| 5.NBT.7  MP1-8 | * **Additional lesson – Group/Group Size/Result Thinking Tool** (2-3 days) | * How do these thinking tools help your efficiency and accuracy? |
| 5.NBT.2, 5.NBT.4  MP1,3,5,6,  ▲N5.1.3.K2 | * **Lesson 2-7 – Estimating Products**  p. 115-119 | * How does rounding affect your level of precision? * How can you determine the precision needed to solve a problem? |
| 5.NBT.3a, 5.NBT.4  5.NBT.7  MP2,3,5,6,8  ▲N5.1.3.K2 | * **Lesson 2-8—Multiplication of Whole Numbers and Decimals** p. 120-125 | * How does estimation help you check your answer to a multiplication problem? * What is the difference between a magnitude estimate and a ballpark estimate? |
| 5.NBT.5  MP1-6, 8 | * **Standard Algorithm (multiplication)** p. A22-A26 | * How does understanding place value help when using the traditional algorithm? |
| OPTIONAL | * **Lesson 2-9—The Lattice Method of Multiplication** p. 126-131   *Teacher Note: Students need to explain how the lattice method works using their understanding of place value. TRM p. 128-129* | * Describe the place value using the lattice method. * What are some advantages and disadvantages of the lattice method for multiplication? |
| 5.NBT.1, 5.MD.1  MP1,3,4,5,6  ▲N5.1.3.K2  ▲5.3.2.A1f | * **Lesson 2-10 – Comparing Millions, Billions, and Trillions**  p. 132-137   *Teacher Note: recommend “extra practice” activity and game* | * What units are important to consider when making this plan? * What information do you need to use in order to solve your problems? |
| 5.OA.3  5.NBT.7 | * **“Open Response”** as a lessonAH p. 163 |  |
|  | * **Progress Check 2 - Lesson 2-11**   p. 138-141 *(Teacher note: skip #15 & 18)* |  |

Support Resources

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| 5.NBT.3a:  **GK-** “High Number Toss (decimal version)” | 5.NBT.4  **GK-** “Multiplication Bull’s-eye” |
| 5.NBT.7  **VDW**: 108-118: “Invented Strategies for Addition & Subtraction”; “…Invented Subtraction Strategies”; “Invented Strategies for Multiplication”  **VDW**: 196 – 201 “Computation with Decimals”  **AIMS-** “Solve It”- Sam’s Sweet Shop p. 160-167  Credit My Account p. 66-71 |  |

Notes:

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| Unit 4: **Division** Time Frame: October 15 - 31 (13 days) | | |
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| **Essential Understanding: C:\Users\lsharlow\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\N41QMS9C\MC900233518[1].wmf**   * Perform operations with multi-digit whole numbers and with decimals to hundredths. | | |
|  | | |
| **CCSS focus this unit:**   * 5.NBT.6-- Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. * 5.NBT.7-- Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.   Also addressed:   * 5.NBT.2-- Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10. * 5.OA.2-- Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. |  | **Math Practices**   1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. |
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|  | Planning/Reflective Questions for Teachers   * How can I help my students understand and explain what it means to divide (both ways)? * How can the strategies support the meaning of division for my students? |
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Lessons not aligned to CCSS: 4.3

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| **CCSS** | **Lesson** | **Questions to encourage MP** |
| 5.OA.2,  5.NBT.2,  5.NBT.6  MP1,2,6,5,8  ▲N**5.1.4.A1a,d** | * **Lesson 4-1—Division Facts and Extensions** p. 230-235   *Teacher Note: emphasize patterns in the zeroes in the products and quotients* | * How are multiplication and division related? * How does understanding multiplication help you understand division? |
| 5.NBT.6  MP1,2,3,5,6  ▲N**5.1.4.A1d** | * **Lesson 4-2 – The Partial-Quotients Division Algorithm**  p. 236-241 (2 days) | * How did you choose friendly numbers to rename the dividend? * Why is a number model a useful way to represent a division problem? |
| 5.NBT.6  MP1,2,3,6,  ▲N**5.1.4.A1d** | * **Lesson 4-4 – Partial-Quotients Algorithm Strategies** p. 248-253 | * Why might a classmate’s partial-quotients list be different from yours? * Why is it possible to solve partial-quotients problems in more than one way? |
| 5.NBT.7  MP1,2,3,4,5,6 | * **Lesson 4-5 – Division of Decimal Numbers**  p. 254-258 | * How can situation diagrams help you solve number stories? |
| 5.NBT.5  MP 1-6, 8 | * **Algorithm Project 7 (division) p. A32** (2 days)   *Teacher Note: recommend giving students more practice with zeroes in the quotient.* | * How can I make the steps to solving division with the traditional algorithm make sense? |
| 5.NBT.7  MP1,2,4,5,6 ▲N**5.1.4.A1d** | * **Lesson 4-6—Interpreting the Remainder**   p. 259-264 | * Name a situation when the remainder to a division problem needs to round up. * Name a situation when the remainder isn’t important. |
| 5.OA.2,  5.NBT.2  MP2, 5, 8  ▲**5.2.2.K1**  ▲**5.2.2.K2** | * **Lesson 4-7—Skills Review w/ *First to 100*** p. 265-271   *Teacher Note: emphasize patterns in the zeroes in the products and quotients* | * When is it useful to use variables to represent values in problems? |
|  | * **Lesson 4-8—Progress Check 4**   p. 211-215  *Teacher Note: (Skip #1-3)* |  |

Support Resources

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| 5.NBT.6  **VDW**: 88-93 “Strategies for Multiplication Facts”  **GK-**“Division Arrays” | 5.NBT.7 |

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| Unit 5: **Fractions, Decimals, and Percents** Time Frame: November 1- 20 (13 days) | | |
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| **Essential Understanding: C:\Users\lsharlow\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\N41QMS9C\MC900233518[1].wmf**   * Use equivalent fractions as a strategy to add and subtract fractions. * Apply and extend previous understandings of multiplication and division to multiply and divide fractions. * Understand the place value system | | |
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| **CCSS focus this unit:**   * 5.NF.1-- Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. * 5.NF.2-- Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. * 5.NF.3 - Interpret a fraction as division of the numerator by the denominator (*a*/*b* = *a* ÷ *b*). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. * 5.NBT.3a-- Read, write, and compare decimals to thousandths. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form   Also addressed:   * 5.NBT.4-- Use place value understanding to round decimals to any place. |  | **Math Practices**   1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. |
|  |  |
|  | Planning/Reflective Questions for Teachers   * How can I help students recognize the similarities of fractions and decimals and why this understanding is important? |
|  |  |  |
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Lessons not aligned to CCSS: 5-8, 5-10, 5-11, 5-12

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| **CCSS** | **Lesson** | **Questions to encourage MP** |
| 5.NF.3  MP1,2,3,4,5,6  ▲N**5.1.1.K1b** | * **Lesson 5-1 – Fraction Review**  p. 290-295   *Teacher Note: emphasize unit fraction understanding and vocabulary* | * Why are fractions important numbers to have? * When in your life have you recently used a fraction? What was it? What was the whole? |
| 5.NF.3  MP1,2,3,5,6  ▲N**5.1.1.K1b** | * **Lesson 5-2 – Mixed Numbers** p. 296-301 | * How do pattern blocks help you understand the relationship between improper fractions and mixed numbers? * Why is it important to know the ONE when working with fractions? |
| 5.NF.1,  5.NF.2  MP2,3,5,6,  ▲N**5.1.1.K1b** | * **Lesson 5-3—Comparing and Ordering Fractions** p. 302-307 | * How could using 0, 1/2, and 1 as benchmarks help you order fractions? * What did you notice about the numerators and denominators that helped you put the fractions in order? |
| 5.NF.1  5.NF.2  MP1, 2, 6, 8  ▲N5.1.1.K1a,b  ▲5.2.2.K1  ▲N5.2.2.K2 | * **Lesson 5-4—Two Rules for Finding Equivalent Fractions** p. 308-313 | * How does splitting rectangles help you understand equivalent fractions? * What patterns did you notice that helped you find the multiplication rule for equivalent fractions? |
| 5.NBT.3a, 5.NBT.4  5.NF.1  5.NF.2  MP1,2,5,6  ▲N**5.1.1.K1c** | * **Lesson 5-5—Fractions and Decimals: 1**   p. 314-318 | * What rules do you know that always work when you want to convert fractions into decimals? * Why do you think supermarkets round up to the nearest tenth of a cent? |
| 5.NBT.3a, 5.NBT.4  MP1,2,3,5,6, 7  ▲N**5.1.1.K1c** | * **Lesson 5-6—Fractions and Decimals: 2**  p. 319-324 | * Why do we use tools like the fraction-stick chart when we do mathematics? * What mistakes could someone make when renaming fractions as decimals using the Fraction-Stick Chart? |
| 5.NBT.3a  5.NF.3  MP1,2,5,6 | * **Lesson 5-7—Fractions and Decimals: 3**  p. 325-330 | * Explain how you would predict whether 2/9 or 3/9 is closer to 0.25 before using your calculator.\* |
| OPTIONAL  ▲**5.4.2.A1d, h** | * **Lesson 5-9 – Bar and Circle Graphs**   p. 337-342 | * Why do you think the slices or sectors are different sizes?\* * How might you choose which type of graph to use for a certain situation? |
|  | * **Lesson 5-13—Progress Check 5**   p. 360-363 |  |

Support Resources

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| 5.NBT.3a | 5.NF.1 |
| 5.NF.2 | 5.NF.3 |

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| Unit 6: **Using Data: Addition/Subtraction of Fractions** Time Frame: Nov. 26–Dec 20 (19 days) | | |
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| **Essential Understanding: C:\Users\lsharlow\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\N41QMS9C\MC900233518[1].wmf**   * Use equivalent fractions as a strategy to add and subtract fractions. | | |
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| **CCSS focus this unit:**   * 5.NF.1-- Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. * 5.NF.2-- Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.   Also addressed:   * 5.NBT.4-- Use place value understanding to round decimals to any place. * 5.MD.1-- Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems. * 5.MD.2 - Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots.   . |  | **Math Practices**   1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. |
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|  | Planning/Reflective Questions for Teachers   * How can I help my students notice that quantities are expressed with greater precision as fractions and decimals? |
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| **Key:**  **EM –** Everyday Mathematics Teacher’s Lesson Guide  **TRM—**Teacher’s Reference Manual  **AH—**Assessment Handbook (Everyday Mathematics)  **EM — DO** Everyday Math Part 3: Differentiation Options  **GK**—Everyday Math Games Kit (see “Teacher’s Guide to Games” book)  **VDW** – Teaching Student-Centered Mathematics by Dr. Van de Walle  **AIMS**-(name of book)—specific book will be identified with lesson name and page number(s)  **\*AFS –** Addition/Subtraction Fact Strategies  **\*MFS** – Multiplication Fact Strategies  **Blue – Science/Health Connection**  **Red—Language Arts/Social Studies Connection**  \*(referenced in Support Resources & offered at the print shop) |  | **Critical Vocabulary:**  line plot, minimum, maximum, mode, median, length, frequency table, simplest form |

Lessons not aligned to CCSS: 6-3, 6-5, 6-7

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| **CCSS** | **Lesson** | **Questions to encourage MP** |
| 5.NBT.4,  5.MD.2  MP2,3,4,5,6,7  **▲5.4.2.K3a,c,d,e**  ▲**5.4.2.A1d**  **▲5.1.3.K2** | * **Lesson 6-1—Organizing Data** p. 378-383 | * How does the line plot help a viewer see what is important about the data? |
| 5.MD.1  MP1,2,5,6,  ▲**5.4.2.A1c,d** | * **Lesson 6-2—Natural Measures of Length** p. 384-388 | * How do you decide the level of precision you need to measure different objects? |
| ▲**5.3.2.K4** | * **Lesson 6-2 ½ –Linear Conversions** | * When would it be important to know the conversion information for feet/inches or yard/inches? |
| 5.NBT.4  MP2, 3, 6,  **▲5.4.2.K3a,d,e**  ▲**5.4.2.A1f** | * **Lesson 6-4—Mystery Plots** p. 395-399   *Teacher Note: Part 3 “Readiness” activity needs to b e used in this lesson* | * When you disagree with a partner, how do you explain your thinking? |
| **▲5.4.2.K3a,b,c,d,e**  ▲**5.4.2.A1d,f,h**  MP 1-6 | * **Lesson 6-6—Analysis of Sample Data**   p. 405-410  *Teacher Note: emphasize using probability meter, de-emphasize percent column* | * How do graphs help you solve problems? |
| 5.NF.1  5.NF.2  MP1,2,3,5,6,  ▲N5.1.1.K1b | * **Lesson 6-8—Using Benchmarks with Fraction Addition and Subtraction**   p. 417-422 | * How are the number line and Fraction Card representations of fractions similar? Different? * How are the representations on the Fraction Cards useful when estimating sums of fractions? |
| 5.NF.1,  5.NF.2,  MP1-8 | * **Lesson 6-9– Clock Fractions and Common Denominators**  p. 423-428 | * What patterns do you notice in your lists of fractions? * How do rules make solving problems easier? |
| 5.NF.1,  5.NF.2  MP1, 2, 5, 6, 8,  ▲5.1.1.K1b | * **Lesson 6-10—Quick Common Denominators** p. 429-433 | * What did you do to be sure you solved the problems accurately? * What could help you remember and use new math vocabulary? |
|  | * **Lesson 6-11 – Progress Check 6**   p. 434-437 |  |

Support Resources

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| 5.NF.1  **VDW** – “Addition and Subtraction” (Fractions) p. 162-167 | 5.NF.2  **VDW** – “Measuring Length” p. 257-260  **VDW** – “Descriptive Statistics” p. 323-325 |

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| Unit 3: **Geometry Explorations /** Unit 11: **Solids**  Time Frame: January 3-15 (9 days) | | |
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| **Essential Understanding: C:\Users\lsharlow\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\N41QMS9C\MC900233518[1].wmf**   * Classify two-dimensional figures into categories based on their properties | | |
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| **CCSS focus this unit:**   * 5.G.3-- **Classify two-dimensional figures into categories based on their properties.** Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. *For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.* * 5.G.4-- Classify two-dimensional figures in a hierarchy based on properties. * 5.MD.1-- Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems. |  | **Math Practices**   1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. |
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|  | Planning/Reflective Questions for Teachers   * How can help my students use geometric attributes to provide descriptive information about an oject’s properties to support visualization and problem solving? |
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| **Key:**  **EM –** Everyday Mathematics Teacher’s Lesson Guide  **TRM—**Teacher’s Reference Manual  **AH—**Assessment Handbook (Everyday Mathematics)  **EM — DO** Everyday Math Part 3: Differentiation Options  **GK**—Everyday Math Games Kit (see “Teacher’s Guide to Games” book)  **VDW** – Teaching Student-Centered Mathematics by Dr. Van de Walle  **AIMS**-(name of book)—specific book will be identified with lesson name and page number(s)  **\*AFS –** Addition/Subtraction Fact Strategies  **\*MFS** – Multiplication Fact Strategies  **Blue – Science/Health Connection**  **Red—Language Arts/Social Studies Connection**  \*(referenced in Support Resources & offered at the print shop) |  | **Critical Vocabulary:**  acute angle, irregular polygon, polygon, parallel, parallelogram, perpendicular, regular polygon, right angle, quadrilateral (~~quadrangle~~), cone, cube, cylinder, prism, pyramid, sphere, base, edge, face, vertex, capacity, volume, weight |

Lessons not aligned to CCSS: 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.8, 3.9, 3.10

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| **CCSS** | **Lesson** | **Questions to encourage MP** |
| 5.G.3,  5.G.4  MP2,3,6,7,8  ▲5.3.1.A1a | * **Lesson 3-7 – Properties of Polygons**   p. 189-193 (2 days) | * What properties of polygons helped you figure other classmates’ rules? * How did you decide which quadrilaterals to put in the “*not parallelograms*” side of the diagram? |
| ▲5.3.1.A1a | **Additional lesson: Symmetry Activities** |  |
| ▲**5.3.1.K3**  ▲**5.3.3.K3** | * **Lesson 11-1 ½ – Geometric Solids and Perspective** | * What vocabulary helps you communicate clearly about geometric solids? |
| MP2, 3, 5, 6, 8  ▲**5.3.1.K3**  ▲**5.3.3.K3** | * **Lesson 11-2 —Review of Geometric Solids: part 2** p. 861-865 | * How does focusing on similarities and differences help you differentiate between a prism and a pyramid? |
| 5.MD.1  MP2, 3, 4, 5, 6, ▲**5.3.2.K4** | * **Lesson 11-6 –Capacity and Weight**   p. 884-889 | * When have you needed to know information about weight or volume in your life? |
|  | * **Lesson 11-8 – Progress Check 11** * p. 895-899 *(skip # 7-11)* |  |

Support Resources

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| 5.G.3: | 5.G.4 |
| 5.MD.1: |  |

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| Unit 9: **Coordinates, Area, Volume, Capacity** Time Frame: January 16 - 31 (11 days) | | | | | |
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| **Essential Understanding:** C:\Users\lsharlow\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\N41QMS9C\MC900233518[1].wmf   * Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition. * Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. * Graph points on the coordinate plane to solve real-world and mathematical problems. | | | | | |
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| **CCSS focus this unit:**   * 5.G.1-- Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond * 5.G.2-- Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation. * 5.MD.3-- Recognize volume as an attribute of solid figures and understand concepts of volume measurement.   a. A cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume, and can be used to measure volume.  b. A solid figure which can be packed without gaps or overlaps using *n* unit cubes is said to have a volume of *n* cubic units.   * 5.MD.5-- a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.   b. Apply the formulas *V* = *l* × *w* × *h* and *V* = *b* × *h* for rectangular prisms to find volumes of right rectangular prisms with whole number edge lengths in the context of solving real world and mathematical problems.  c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.  Also addressed:   * 5.NBT.4-- Use place value understanding to round decimals to any place. * 5.NBT.7-- Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. * 5.NF.4b-- Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.   b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.   * 5.MD.4 - Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units. | | |  | **Math Practices**   1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. | |
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|  | Planning/Reflective Questions for Teachers   * How can I help my students understand and describe the conceptual reasons for the volume formula? | |
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| **Key: see unit 8**  Lessons not aligned to CCSS: 9-3, 9-5, 9-6, 9-7 | | |  | **Critical Vocabulary:**  coordinate, grid, function table, ordered pair, x-axis, y-axis, reflection, translation, area, base, height, variable, face, volume, rectangular prism, prism, capacity | |
| **CCSS** | **Lesson** | **Questions to encourage MP** | | |
| 5.G.1,  5.G.2  MP2, 5, 6,  **▲5.2.3.K4** | * **Lesson 9-1: *Hidden Treasure*: a Coordinate Game** p. 704-709 | * What strategies could you use to get closer to naming your partner’s hidden point? | | |
| 5.G.1,  5.G.2  MP2, 5, 6, 7, 8  **▲5.2.3.K4** | * **Lesson 9-2—Coordinate Graphs: Part 1**   p. 710-715 | * How do you remember the rules for plotting ordered number pairs? * Why is it important to be accurate when using a coordinate grid? | | |
| OPTIONAL  MP3,4,5,6 | * **Lesson 9-3—Coordinate Graphs: Part 2**   p. 716-721  *Teacher Note: negative coordinates are in this lesson* | * What strategies do you use to remember math vocabulary? | | |
| 5.NF.4b,  MP2,3,5,6,8  ▲**5.3.2.A1g,h** | * **Lesson 9-4—Areas of Rectangles**   p. 722-728 | * What do you notice about the relationship between the base and height and the actual area of each figure? | | |
| OPTIONAL  ▲**5.3.2.A1g,h** | * **Lesson 9-5—The Rectangle Method for Finding Area** p. 729-734 | * What does it mean to make *reasonable* estimates? | | |
| 5.NBT.4,  5.NBT.7,  5.MD.3a, b,  5.MD.4,  5.MD.5a,b  MP1, 2, 3, 6, 7, 8  ▲**5.3.1.K3**  ▲**5.3.3.K3** | * **Lesson 9-8—Volume of Rectangular Prisms** p. 747-752 (2 days) | * How does filling the box with centimeter cubes model the formula for volume (*V = B \* h*)*?* * How are area and volume related? | | |
| Optional  MP1-6,8  ▲**5.3.1.K3**  ▲**5.3.1.A1b** | * **Lesson 9-9—Volume of Right Prisms**   p. 753-759  *Teacher Note: emphasize rectangular prisms* | * Why is it helpful to have a formula to solve volume problems? * Give an example of another problem that can be solved using this formula. | | |
| 5.MD.1,  5.MD.5b  MP1,2,4,6,7 | * **Lesson 9-10– Capacity: Liter, Millimeter, and Cubic Centimeter**  p. 760-765 | * What is the relationship between volume and capacity? | | |
|  | * **Lesson 9-11 – Progress Check 9**   p. 766-769  *(skip #6-9)* |  | | |

Support Resources

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| 5.G.1  **GK** “Grid Search” & “Hidden Treasure” | 5.G.2 |
| 5.MD.3 | 5.MD.5 |

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| Unit 8: **Fractions and Ratios** Time Frame: Feb. 11 – April 12 (36 days [assessment]) | | |
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| **Essential Understanding: C:\Users\lsharlow\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\N41QMS9C\MC900233518[1].wmf**   * Use equivalent fractions as a strategy to add and subtract fractions. * Apply and extend previous understandings of multiplication and division to multiply and divide fractions. | | |
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| **CCSS focus this unit:**   * 5.NF.1-- Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. * 5.NF.2-- Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. * 5.NF.4-- Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.   Interpret the product (*a*/*b*) × *q* as *a* parts of a partition of *q* into *b* equal parts; equivalently, as the result of a sequence of operations *a* × *q* ÷ *b*.  Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.   * 5.NF.5 - Interpret multiplication as scaling (resizing), by:   Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.  Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence *a*/*b* = (*n*×*a*)/(*n*×*b*) to the effect of multiplying *a*/*b* by 1.   * 5.NF.6 - Solve real world problems involving multiplication of fractions and mixed numbers   Also addressed:   * 5.NF.7-- Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.   a. Interpret division of a unit fraction by a non-zero whole number, Students able to multiply fractions in general can develop strategies to divide fractions in general, by reasoning about the relationship between multiplication and division. But division of a fraction by a fraction is not a requirement at this grade. and compute such quotients  b. Interpret division of a whole number by a unit fraction, and compute such quotient  c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. |  | **Math Practices**   1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. |
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|  | Planning/Reflective Questions for Teachers   * How can I set up learning experiences that help students discover the pattern that support the understanding in 5.NF.5? * How can I help my students see the structure of real-world fraction word problems? |
| **Critical Vocabulary:**  Denominator, fraction, improper fraction, lowest term/simplest form, numerator, horizontal, vertical, |
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| **Key:** See unit 7 |  |

Lessons not aligned to CCSS: 8-9, 8-10, 8-11

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| **CCSS** | **Lesson** | **Questions to encourage MP** |
| 5.NF.1,  5.NF.2,  MP1,2,5,6,8  **▲5.1.1.K1b** | * **Lesson 8-1—Review: Comparing Fractions**  p. 618-623 | * How could you find equivalent fractions without using the Fraction-Stick and Decimal Number-Line Chart?\* |
| 5.NF.1,  5.NF.2  MP1, 2, 5, 6  **▲5.1.1.K1b** | * **Lesson 8-2—Adding Mixed Numbers**   p. 624-629 | * How is adding with unlike denominators different from adding with like denominators? |
| 5.NF.1,  5.NF.2 | * **Additional lesson – Adding fractions (not mixed) using a number line** | * What rules did you apply when adding mixed numbers with unlike denominators? |
| 5.NF.1,  5.NF.2  MP1, 2, 5, 6  **▲5.1.1.K1b** | * **Lesson 8-3 – Subtracting Mixed Numbers**  p. 630-635 | * Why do you use estimation to check your answers? |
| 5.NF.1,  5.NF.2 | * **Additional lesson – Number line Fraction Subtraction** | * When is it helpful to know more than one way to solve a problem? |
| OPTIONAL  MP1,2,4,5,6,  5.NF.1,  5.NF.2 | * **Lesson 8-4 – Calculator Practice: Computation with Fractions**  p. 636-641 | * What mistakes might someone make when working with fractions on a calculator? |
| 5.NF.4a,  5.NF.5a,  5.NF.6  MP1,3,4,5,6  **▲5.1.1.K1b** | * **Lesson 8-5—Fraction of Fractions**   p. 642-649  *Teacher Note: students need to be purposefully expected to express understanding as to how multiplication as scaling using a visual model.* | * How do the paper models help you solve “fraction of” problems? * Why is it important to understand the meanings of pictures and other representations? |
| 5.NF.4a,  5.NF.5a,b,  5.NF.6  MP 3,6,8  **▲5.1.1.K1b** | * **Lesson 8-6—An Area Model for Fraction Multiplication** p. 649-653 **(2-3 days)**   *Teacher Note: see 8-5* | * Which representation of fraction multiplication helps you most? Why? * Describe a way to multiply two fractions.\* |
| 5.OA.1,  5.NF.4a,  5.NF.5b,  5.NF.6  MP2,4,6,7,8,  **▲5.1.1.K1b** | * **Lesson 8-7—Multiplication of Fractions and Whole Numbers** p. 654-658 **(2 days)**   *Teacher Note: see 8-5* | * What patterns do you notice about the numerators and denominators when multiplying fractions by whole numbers? * Why is the denominator in the product the same as the denominator in the fraction factor? |
| 5.NF.4a, b  5.NF.5a, b  5.NF.6  MP2-8 | * **Lesson 8-8—Multiplication of Mixed Numbers** p. 659-663 **(2 days)**   *Teacher Note: “Informing Instruction” offers excellent suggestion in line with CCSS mathematical practices* | * When might you prefer to use partial products when multiplying mixed numbers? Improper fractions? * How could it help you to know different methods for solving the same problems**?** |
| Optional | * **Lesson 8-10 Relating Fractional Units to the Whole p. 869-873** | * How does understanding how to work with unit fractions help you when solving other kinds of fraction problems? |
| 5.NF.7a,b,c  MP1,2,4,6  **▲5.1.1.K1b** | * **Lesson 8-12—Fraction Division** .p 680-685 | * How do visual models help you in math? |
|  | * **Lesson 8-13—Progress Check 8**   p. 686-689 |  |
| MP1,5  5.MD1 | * **Lesson 8-13 ½a – Measurement Hunt for dm and cm** * **Lesson 8-13 ½b – Fractions of Meters** * **Lesson 8-13 ½c – Fractions of Centimeters** * **Lesson 8-13 ½d – Convert Among Metric Units** |  |

Support Resources

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| 5.NF.1  **GK** – “Fraction Action, Fraction Friction”  **GK** – “Fraction Spin”  **GK** – “Mixed-Number Spin” | 5.NF.2 |
| 5.NF.4  **GK** – “Fraction Multiplication Top-it” | 5.NF.5 |
| 5.NF.6 |  |

Notes:

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| Unit 10:**Using Data: Algebra Concepts and Skills** Time Frame: April 15 - 30 (10 days) | | |
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| **Essential Understanding: C:\Users\lsharlow\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\N41QMS9C\MC900233518[1].wmf**   * Analyze patterns and relationships. * Graph points on the coordinate plane to solve real-world and mathematical problems. | | |
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| **CCSS focus this unit:**   * 5.G.1-- Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond * 5.G.2-- Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation. * 5.OA.3 - Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane.   Also addressed:   * 5.NF.2-- Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. * 5.NBT.2-- Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10. * 5.NBT.7-- Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. * 5.OA.2-- Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. * 5.OA.1-- Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols |  | **Math Practices**   1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. |
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|  | Planning/Reflective Questions for Teachers   * How can I help students relate the coordinate values of any graphed point to the context of the problem? |
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| **Key:** |  | **Critical Vocabulary:**  algebraic expression, variable, coordinates, ordered pairs, x-axis, y-axis, |

Lessons not aligned to CCSS: 10-8, 10-9

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| **CCSS** | **Lesson** | **Questions to encourage MP** |
| 5.NBT.2  MP1, 2, 3, 6  ▲**5.2.2.K1** | * **Lesson 10-1—Pan-Balance Problems**   p. 784-790 | * Why do you have to make sure that both sides are equal in a pan-balance problem and in an equation? |
| MP1,2,3,8  ▲**5.4.2.A1d** | * **Lesson 10-2—Pan-Balance Problems with Two Balances** p. 791-796 | * How did you decide which of the two statements should be completed first? * Why do you need to decide this before solving the problem? |
| 5.OA.1,  5.OA.2,  5.OA.3  MP2,3,4,6,7,8  ▲**5.2.2.K1** | * **Lesson 10-3 – Algebraic Expressions**   p. 797-802 | * What is the advantage to representing situations using algebraic expressions? |
| 5.OA.3,  5.G.1,  5.G.2  MP1,2,4,6,7,8,  ▲**5.3.2.A1f** | * **Lesson 10-4—Rules, Tables, and Graphs: Part 1** p. 803-808 | * When might you prefer to represent a mathematical relationship with a graph? |
| OPTIONAL | * **Lesson 10-5—Old Faithful’s Next Eruption** p. 809- 813 | * How can mathematics help you make decisions in the real world? |
| 5.OA.3,  5.NBT.7,  5.NF.2,  5.G.1,  5.G.2  MP1,2,3,4,5,6,7,8 | * **Lesson 10-6—Rules, Tables, and Graphs: Part 2** p. 814-819 | * Why do patterns in math often lead to rules? * What title would you give this graph? |
| 5.G.1  MP2, 3, 6,  ▲**5.2.2.K1**  ▲**5.4.2.A1d** | * **Lesson 10-7 – Reading Graphs** p. 820-824 | * What other situations could you represent with graphs like this, where time is represented on the horizontal axis? |
|  | * **Lesson 10-10—Progress Check 10**   p. 837-841 *(skip #9)* |  |

Support Resources

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| 5.G.1 | 5.G.2 |
| 5.OA.3 | ” |

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| Unit 7: **Exponents and Negative Numbers** Time Frame: May 1 - 15 (11 days) | | |
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| **Essential Understanding: C:\Users\lsharlow\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\N41QMS9C\MC900233518[1].wmf**   * Understand the place value system * Write and interpret numerical expressions. | | |
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| **CCSS focus this unit:**   * 5.NBT.2-- Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10. * 5.OA.2-- Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. * 5.OA.1-- Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.   Also addressed:   * 5.NBT.1-- Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left. * 5.NF.1-- Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. * 5.NF.2-- Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. * 5.MD.2 - Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots |  | **Math Practices**   1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. |
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|  | Planning/Reflective Questions for Teachers   * How can I help students understand the symbols used in a quantitative expression in a real world situation? |
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| **Key:**  **EM –** Everyday Mathematics Teacher’s Lesson Guide  **TRM—**Teacher’s Reference Manual  **AH—**Assessment Handbook (Everyday Mathematics)  **EM — DO** Everyday Math Part 3: Differentiation Options  **GK**—Everyday Math Games Kit (see “Teacher’s Guide to Games” book)  **VDW** – Teaching Student-Centered Mathematics by Dr. Van de Walle  **AIMS**-(name of book)—specific book will be identified with lesson name and page number(s)  **\*AFS –** Addition/Subtraction Fact Strategies  **\*MFS** – Multiplication Fact Strategies |  | **Critical Vocabulary:**  Base, exponent, factor, expanded form, expanded notation, expression, order of operations |

Lessons not aligned to CCSS: 7-6, 7-7, 7-8, 7-9, 7-11, 7-12

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| **CCSS** | **Lesson** | **Questions to encourage MP** |
| 6, 5.NBT.2  MP1,2,3,5 ,6 | * **Lesson 7-1—Exponential Notation**   p. 542-546 | * If these mistakes were made by a classmate, what would you explain to him or her about exponents? |
| 5.NBT.1,  5.NBT.2  MP1,2,3,6,7, | * **Lesson 7-2 – Exponential Notation for Powers of 10**  p. 547-551 | * When might someone use number-and-word notation rather than exponential notation? |
| 5.NBT.2  MP2,4,6,7 | * **Lesson 7-3—Scientific Notation** p. 552-556 | * Can a chart be a tool for doing mathematics? Explain your thinking. |
| 5.OA.1,  5.OA.2,  MP2,3,4,6,8 | * **Lesson 7-4—Parentheses in Number Sentences** p. 557-561 | * Why is it important for mathematical symbols to have the same meaning for everyone? |
| 5.OA.1,  5.OA.2  MP2,3,4,6,7,8 | * **Lesson 7-5—Order of Operations**   p. 562-567 (2 days) | * What other rules do you use to solve problems in math? |
| 5 NF.1,  5.NF.2,  5.MD.2  MP1,2,4,5,6 | * **Lesson 7-10 – Line Plots**  p. 590-595 | * Why is it helpful to represent this information in a line plot? |

Support Resources

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| 5.NBT.2:  **GK** – “Scientific Notation Toss” | 5.OA.1 |
| 5.OA.2 |  |

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| Unit 12: **Probability, Ratios and Rates** Time Frame: May 16 - 22 (5 days) | | |
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| **Essential Understanding: C:\Users\lsharlow\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\N41QMS9C\MC900233518[1].wmf** | | |
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| **CCSS focus this unit:**  . |  | **Math Practices**   1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. |
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|  | Planning/Reflective Questions for Teachers   * What math content could these optional math activities support? |
|  |  |  |
| **Key:**  **EM –** Everyday Mathematics Teacher’s Lesson Guide  **TRM—**Teacher’s Reference Manual  **AH—**Assessment Handbook (Everyday Mathematics)  **EM — DO** Everyday Math Part 3: Differentiation Options  **GK**—Everyday Math Games Kit (see “Teacher’s Guide to Games” book)  **VDW** – Teaching Student-Centered Mathematics by Dr. Van de Walle  **AIMS**-(name of book)—specific book will be identified with lesson name and page number(s)  **\*AFS –** Addition/Subtraction Fact Strategies  **\*MFS** – Multiplication Fact Strategies  **Blue – Science/Health Connection**  **Red—Language Arts/Social Studies Connection** |  | **Critical Vocabulary:** |

Lessons not aligned to CCSS: 12-1, 12-2, 12-3, 12-4, 12-5, 12-6, 12-7, 12-8, 12-9

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| **CCSS** | **Lesson** | **Questions to encourage MP** |
| OPTIONAL  MP1,2,4,5,6 | * **Lesson 12-6—Finding Your Heart Rate** p. 942-945 | * How did you use the rate in problem 1 to calculate the number of heart beats in 1 minute, 1 hour, 1 day and 1 year? * How could your explanations help someone else in math? |
| OPTIONAL  MP1,2,4,5,6,8 | * **Lesson 12-7—Collecting, Graphing, and Interpreting Data** p. 946-951 | * What do you notice about your heart-rate profile? * How did you use your profile to predict your heart rate after 30 jumping jacks? |